

ABSTRACT

This invention relates to an expression vector wherein said expression vector comprises a polynucleotide promoter sequence, a polynucleotide encoding a signal sequence, a polynucleotide encoding an antigen protein or peptide, a polynucleotide encoding a cell binding element, and a polynucleotide polyadenylation sequence all operatively linked. More particularly, it relates to the method of eliciting an immune response directed against an antigen in a mammal comprising the steps of introducing the expression vector into a cell, expressing the vector to produce an antigen under conditions wherein the antigen is secreted from the cell, endocytosing the secreted antigen into the cell, processing the antigen, and presenting fragments to a receptor to elicit a T-cell response. In addition, this invention relates to a vaccine and a method of use. The invention also relates to the method of identifying MHC-II restricted epitopes.